REMARKS

Claims 26-47, and 52-59 will be pending in the application after entry of the forgoing amendment.

In part 4 of the Office Action, the Examiner objected to an amendment to page 8. Although Applicant does not agree with Examiner in this regard, Applicant has canceled the objected to amendment.

In part 5 of the Office Action, the Examiner objected to an incorporation by reference. Applicant has canceled the incorporation by reference.

In parts 7, 9, and 12, page 7, the Examiner raised objections and rejected claims 52 and 53 under 35 U.S.C. §112, first paragraph, alleging that the recited "information storage medium" is not conveyed by the specification. Applicant has addressed this part of the Office Action with amendment to claims 52 and 53 and remarks below.

The Examiner rejected claims 26-47 and 52-57 under 35 U.S.C. §112, first paragraph and second paragraph; and rejected claims 52 and 53 under 35 U.S.C. §102 as allegedly being anticipated by Lipps et al. (U.S. Patent No. 5,741,182).

Applicant has amended the claims.

Applicant submits that the pending claims, as amended, are nonobvious in view of the art of record, and otherwise comply with the statutes and regulations.

Support, not limitation, for the recitation of "a non-volatile computer readable medium" in claims 52 and 53 may be found, for example, in originally filed page 8, disclosing a ROM, and claims 4 and 5. "The broadest reasonable interpretation of a claim drawn to a computer readable medium . . . typically covers forms of non-transitory tangible media and transitory propagating signals per se in view of the ordinary and customary meaning of computer readable media . . ."[1] Thus, recitation of non-volatile computer readable medium in claims 52 and 53 covers the ROM disclosed on page 8; the

1. "Subject Matter Eligibility of Computer Readable Media", David J. Kappos, L Under Secretary of Cornm Intellectual Property and Director of the United States Patent and Trademark Office, January 26, 2010.

ROM disclosed on page 8 supports the recitation of non-volatile computer readable medium in claims 52 and 53.

Lipps et al. disclose an apparatus including a video baseball-simulating game and a special bat containing a combination of electronic, mechanical, and optical components for providing infrared radiation or other energy (typically electrical) that is modulated when the player swings the bat and thus actuates a centrifugal switch therein. Receiving and decoding means receive the energy and, responsive thereto, provide digital signals to software in the video game to control an animated batter in the visual display therein. Lipps et al. Abstract.

The baseball accessory device typically comprises a simulated baseball bat 4 with a built-in centrifugal or other inertial switch 5 to sense the timing of the player's swing. In a currently preferred form of the invention, the centrifugal switch 5 comprises a disc 15, made of steel or other dense material, that moves longitudinally in a guide housing 16. When the bat 4 is swung, the disc 15 is propelled toward the outer end of the bat 4 pressing a switch actuator 17 against a return spring 18 to close or open a switch 19 ... Lipps et al. col.2, lines 34-44.

Typically the player stands with the simulated bat as he watches the action in the baseball video game. At the appropriate time, the player stands with the simulated bat prepared to swing. As the player watches the pitcher in the video game deliver a pitch, the player times the speed and estimates whether the pitch will arrive in the strike zone, and thus be "hitable". If the player expects the ball to be hitable, he swings the bat to meet the timing of the pitch. Lipps et al. col.3, lines 6-13.

When the player swings the bat, an internal inertial switch senses the motion and activates a circuit which sends a signal to the video game console to control the animated batter in the game. The game software determines whether the swing results in a hit. Lipps et al. col.3, lines 14-17.

If the player makes a hit, he can then control the base runner by pressing the appropriate buttons on the handle of the bat. Similarly, the player can control the leadoff and base stealing with the buttons on the bat handle. The specific features of the game are determined by the game software. Lipps et al. col. 3, lines 18-23.

The player views the pitch as it approaches on the TV or computer screen. If the player believes that the pitch will be delivered in the strike zone, he can swing the bat 46 in an attempt to "hit" the ball. If the ball is in the strike zone, and the player has the right timing, a hit will result, and the action of the video game will respond appropriately. If the pitch is delivered outside the strike zone or the player's swing is too early or too late, the batter will be charged with a strike. Lipps et al. col. 3, lines 54-62.

According to Lipps et al., enhanced forms of the invention may detect more information about the swing, such as speed, height, upward or downward angle, etc. to perform a better simulation of game play. However, the currently available baseball game software operates primarily from the timing of the swing, and the functions of the invention at present are implemented to the extent of the currently available software support. Additional features can be added as allowed by increased sophistication of the available game software. Lipps et al. col. 1, lines 45-53. (emphasis added).

Claims 26-38 and 54-56

In contrast to the art of record, each of amended claims 26-38 and 54-56 recites, *inter alia*, a ball game apparatus configured to operate with a screen of a display device, said ball game apparatus comprising an input device including a handle to be moved in a three-dimensional space by a game player, to produce a movement for simulating an attempted interception of a ball; a first signal-generator incorporated in said input device to output an acceleration correlated signal according to an acceleration upon moving said input device in the three-dimensional space to produce said movement for simulating an attempted interception of a ball, said acceleration correlated signal indicating a plurality of different non-zero acceleration values; and a game processor for determining, based on said second signal, outputted in response to said acceleration correlated signal, and a moving timing of said ball character that is a position of said ball character in a depth direction in said screen, a moving direction of said ball character as a parameter for a movement of the ball character after a hit. (Base claim 26, as amended). No reasonable combination of the art of record, including Lipps et al. and Marinelli, would have suggested amended claim 26's interrelation of structure, including determining a moving direction of a ball character based on the second signal outputted in response to the recited acceleration correlated signal, and a moving timing of the ball character that is a position of the ball character in a depth direction.

Applicant concedes that it was known to measure the spin rate of an object by measuring centrifugal force, as exemplified by Marinelli. Lipps et al., however, is not directed to the problem of measuring spin rate; they are directed to detecting the swing of a baseball bat for the purpose of simulation. According to Lipps et al., "enhanced forms of the invention may detect more information about the swing, such as speed, height, upward or downward angle, etc. to perform a better simulation of game play." [2] To detect such additional information about the swing, one would not have been motivated to attempt to use circuitry for detecting the spin rate of a continuously spinning object, such

2. Lipps et al. col. 1, lines 45-53.

as taught by Marinelli.[3] One would not have an expectation that the spin rate measuring circuitry of Marinelli would be an appropriate source for additional information about a bat swing, which is a relatively discreet movement for intercepting a baseball.

Furthermore, claim 26 recites determining a moving direction based on a moving timing of the ball character. In a real baseball game, the moving direction of the ball depends on the angle of the bat and the velocity vector of the ball just before hitting. Thus, Lipps describes a better simulation as depending on more information about the swing, not on information already existing in Lipps.

In the Office Action mailed June 18, 2009, the Examiner stated "it would have been obvious to one skilled in the art, at the time of the Applicant's invention, to represent objects utilized in the video game taught by Lipps et al. (e.g., such as a baseball and/or baseball player) in 3D, because through the incorporation of depth it would provide a means of achieving greater realism, which is what Lipps et al. is directed toward (e.g., realism; Lipps et al. - col. 1, 11. 39-44), thus resulting in a more immersive gaming experience for a given player utilizing said system" (page 20, lines 3-9, Final Action maile June 18, 2009). Applicant understands that one skilled in the art may combine a 3D technique with the technique of Lipps. Even given such a combination, however, it would not have been obvious to have the combination of claim 26, including the step of determining a moving direction based on the position of the ball character in a depth direction.

Instead, to perform a better simulation, one skilled in the art would look to more information about the swing, such as disclosed in U.S. Patent 5,833,549 to Zur (Fig. 5, showing the angle α of the bat is measured); or U.S. Patent 5,435,554 to Lipson (ball trajectory determined by the initial hit angle and the initial velocity of the ball coming off the bat (column 16, lines 34-35), initial hit angle determined based on the batter's joystick position (column 15, line 67- column 16, line 2)).

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3. Cf. Zur et al., in the same field (simulation) as Lipps et al., disclosing use of light detection to detect batting angles.

Ogawa cannot make up for the deficiencies of the other references.[4]

Claims 39-47 and 57

In contrast to the art of record, each of amended claims 39-47 and 57 recites, *inter alia*, a ball game apparatus comprising a first signal-generator incorporated in said input device to output a signal that is a step function of a force generated upon moving said input device in said three-dimensional space by said game player; and a game processor for receiving said second signal, outputted in response to said first signal that is said step function of said force generated upon moving said input device, and determining, based on said second signal and a moving timing that is a position of said ball character in a depth direction in said screen, a moving direction of said ball character as a parameter for a movement of said ball character after a hit. (Base claim 39, as amended). No reasonable combination of the art of record, including Lipps at al. and Zur et al., would have suggested amended claim 39's interrelation of structure, including the recited processor for determining a ball moving direction after a hit based, *inter alia*, on the second signal that is outputted in response to the recited first signal that is the step function of force, and a moving timing that is a position of said ball character in a depth direction.

In a real baseball game, the moving direction of the ball depends on the angle of the bat and the velocity vector of the ball just before hitting. Thus, Lipps describes a better simulation as depending on more information about the swing.

In the Office Action mailed June 18, 2009, the Examiner stated "it would have been obvious to one skilled in the art, at the time of the Applicant's invention, to represent objects utilized in the video game taught by Lipps et al. (e.g., such as a baseball and/or

4. The Examiner stated that "Ogawa teaches a piezoelectric buzzer having a piezoelectric ceramic plate and electrodes respectively formed on main surfaces of said piezoelectric ceramic plate (col. 1, ll. 24-37; "The present invention relates to a piezoelectric sound generator which is applied to, e.g., a piezoelectric buzzer or a piezoelectric loudspeaker, and more particularly, it relates to a piezoelectric sound generator including a monolithic sintered body which is obtained by laminating a plurality of ceramic green sheets and electrodes and cofiring the same." - col. 1, ll. 9-15; col. 4, ll. 25-44; Fig. 1)." (Office Action mailed June 18, 2009 page 7, lines 11-18).

baseball player) in 3D, because through the incorporation of depth it would provide a means of achieving greater realism, which is what Lipps et al. is directed toward (e.g., realism; Lipps et al. - col. 1, 11. 39-44), thus resulting in a more immersive gaming experience for a given player utilizing said system" (see page 20, lines 3-9, Final Action mailed June 18, 2009).

Applicant understands that one skilled in the art may combine a 3D technique with the technique of Lipps. Even given such a combination, however, it would not have been obvious to have the combination of claim 39, including the step of determining based on the recited second signal and the moving timing that is the position of the ball character in a depth direction.

Instead, to perform a better simulation, one skilled in the art would look to more information about the swing, such as disclosed in U.S. Patent 5,833,549 to Zur (Fig. 5, showing the angle α of the bat is measured); or U.S. Patent 5,435,554 to Lipson (ball trajectory determined by the initial hit angle and the initial velocity of the ball coming off the bat (column 16, lines 34-35), initial hit angle determined based on the batter's joystick position (column 15, line 67- column 16, line 2)).

Thus, amended claim 39 is patentable for the reasons above alone.

Furthermore, Applicant notes that Lipps et al. contemplate other simulations based on detection of "more information about the swing, such as speed, height, upward or downward angle, etc. to perform a better simulation of game play."[5] Thus, there would have been no suggestion to provide the determining of ball movement of Applicant's claim 39 based on data already existing in Lipps et al., namely the output of the centrifugal switch of Lipps et al. "It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art". *In re Wesslau*, 353 F.2d at 241, 147 U.S.P.Q. at 393.

5. Lipps et al. col. 1, lines 45-53 (emphasis added).

Claim 52

Claim 52 is patentable because it recites, *inter alia*, a non-volatile computer readable medium including a program causing said game processor to determine, based on the recited second signal and a moving timing of said ball character that is a position of said ball character in a depth direction in said screen, a moving direction of said ball character as a parameter for a movement of the ball character after a hit. Although Lipps et al. display responsive to a hit, Lipps et al. do not suggest claim 52's recited moving direction of said ball character.

Claim 58

Claim 58 is patentable because it recites, *inter alia*, determining, based on the second signal and a moving timing of the ball character that is a position of the ball character in a depth direction in the screen, a moving direction of the ball character as a parameter for a movement of the ball character after a hit.

Claim 53

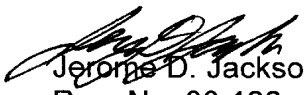
Claim 53 is patentable because it recites, *inter alia*, a non-volatile computer readable medium including a program causing said game processor to determine, based on a timing of said second signal and a moving timing that is a position of said ball character in a depth direction in said screen, a moving direction of said ball character as a parameter for a movement of said ball character after a hit. Although Lipps et al. display responsive to a hit, Lipps et al. do not suggest claim 53's recited moving direction of said ball character

Claim 59

Claim 59 is patentable because it recites, *inter alia*, determining, based on a timing of the second signal and a moving timing that is a position of the ball character in a depth direction in the screen, a moving direction of the ball character as a parameter for a movement of the ball character after a hit.

If the Examiner has any questions, Applicant's representative can be reached at 703-684-4840.

Respectfully submitted,



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